L1 ANSWER 1 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN
ACCESSION NUMBER: 2002-609751 [66] WPIX
DOC. NO. CPI: C2003-031598 [12]
TITLE: New carbamate-substituted pyrazolo(3,4-b)pyridine derivatives, are soluble guanylate cyclase stimulants useful e.g. for treating cardiovascular or central nervous system diseases, sexual dysfunction or inflammation
DERWENT CLASS: B02
INVENTOR: ALONSO-ALIJA C; DEMBOWSKY K; FEURER A; FLUBACHER D; LANG D; PERZBORN E; STAHL E; STASCH J; STRAUB A; WEIGAND S; WUNDER F
PATENT ASSIGNEE: (ALON-I) ALONSO-ALIJA C; (FARB-C) BAYER AG; (FARB-C) BAYER HEALTHCARE AG; (DEMB-I) DEMBOWSKY K; (FEUR-I) FEURER A; (FLUB-I) FLUBACHER D; (LANG-I) LANG D; (PERZ-I) PERZBORN E; (STAH-I) STAHL E; (STAS-I) STASCH J; (STRA-I) STRAUB A; (WEIG-I) WEIGAND S; (WUND-I) WUNDER F
COUNTRY COUNT: 97

PATENT INFO ABBR.:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
DE 10057751	A1	20020523	(200266)*	DE	29[0]	
AU 2002016028	A	20020603	(200266)	EN		
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WO 2002042300	A1	20020530	(200266)	DE		
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EP 1339717	A1	20030903	(200365)	DE		
US 20040082596	A1	20040429	(200429)	EN		
JP 2004517827	W	20040617	(200440)	JA	99	
EP 1339717	B1	20050209	(200512)	DE		
DE 50105334	G	20050317	(200522)	DE		
ES 2236360	T3	20050716	(200549)	ES		
US 20050261323	A1	20051124	(200577)	EN		
US 7105523	B2	20060912	(200660)	EN		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
-			
DE 10057751 A1		DE 2000-10057751	20001122
DE 50105334 G		DE 2001-505334	20011109
EP 1339717 A1		EP 2001-997488	20011109
EP 1339717 B1		EP 2001-997488	20011109
DE 50105334 G		EP 2001-997488	20011109

ES 2236360 T3	EP 2001-997488 20011109
WO 2002042300 A1 20011109***	***WO 2001-EP12966
EP 1339717 A1	WO 2001-EP12966 20011109
US 20040082596 A1	WO 2001-EP12966 20011109
JP 2004517827 W	WO 2001-EP12966 20011109
EP 1339717 B1	WO 2001-EP12966 20011109
DE 50105334 G	WO 2001-EP12966 20011109
US 20050261323 A1 Cont of	WO 2001-EP12966 20011109
AU 2002016028 A	AU 2002-16028 20011109
JP 2004517827 W	JP 2002-544434 20011109
US 20040082596 A1	US 2003-432571 20031023
US 20050261323 A1 Cont of	US 2003-432571 20031023
US 20050261323 A1	US 2005-192961 20050729
US 7105523 B2	WO 2001-EP12966 20011109
US 7105523 B2	US 2003-432571 20031023

FILING DETAILS:

PATENT NO	KIND		PATENT NO	
DE 50105334	G	Based on	EP 1339717	A
ES 2236360	T3	Based on	EP 1339717	A
AU 2002016028	A	Based on	WO 2002042300	A
EP 1339717	A1	Based on	WO 2002042300	A
JP 2004517827	W	Based on	WO 2002042300	A
EP 1339717	B1	Based on	WO 2002042300	A
DE 50105334	G	Based on	WO 2002042300	A
US 7105523	B2	Based on	WO 2002042300	A

PRIORITY APPLN. INFO: DE 2000-10057751 20001122
AN 2002-609751 [66] WPIX
AB DE 10057751 A1 UPAB: 20060202
NOVELTY - 4-Amino-2-(1-(2-fluorobenzyl)-1H-pyrazolo(3,4-b)pyridin-3-yl)-
pyrimidin-5-yl carbamates (I) are new.
DETAILED DESCRIPTION - 4-Amino-2-(1-(2-fluorobenzyl)-1H-pyrazolo(3,4-b)pyridin-3-yl)-pyrimidin-5-yl carbamates of formula (I) and
their salts, isomers and hydrates are new.
R1 = H or dialkylaminocarbonyl;
R2 = -O-C(X)-NR3R4;
X = O or S;
R3, R4 = H (but not both H), or alkyl, alkoxyalkyl, hydroxyalkyl,
2-6C alkenyl, alkylcarbonyloxyalkyl, alkoxycarbonylalkyl, carboxyalkyl,
phenyl (optionally substituted by alkyl), 5-7 membered saturated heterocyclyl (optionally bonded via alkyl) or 3-8C cycloalkyl (all optionally substituted); or
NR3R4 = 5-7 membered saturated heterocycle (optionally substituted
and optionally containing a further N, O or S heteroatom and/or fused with
a benzene ring); and
alkyl = 1-6C unless specified otherwise.

An INDEPENDENT CLAIM is also included for the preparation of (I).

ACTIVITY - Cardiant; Vasotropic; Hypotensive; Thrombolytic; Anticoagulant; Antiinflammatory; Antianginal; Antiarrhythmic; Cerebroprotective; Antiarteriosclerotic; Antiasthmatic; Cytostatic; osteopathic; Uropathic; Nootropic; Neuroprotective; Antiparkinsonian; Vulnerary; Anti-HIV; Neuroleptic; Tranquilizer; Hypnotic; Antimigraine; Analgesic; Anorectic; Anabolic.

In tests to determine inhibition of phenylephrine-induced contraction of rabbit aortic rings in vitro, 4-Amino-2-(1-(2-fluorobenzyl)-1H-pyrazolo(3,4-b)pyridin-3-yl)-pyrimidin-5-yl N-isopropyl-N-methylcarbamate (Ia) displayed an IC50 of 0.27 microM.

MECHANISM OF ACTION - Soluble Guanylate Cyclase Stimulant.

(I) Directly stimulate soluble guanylate cyclase and increase cellular cGMP levels, and thus cause vascular relaxation, inhibit thrombocyte aggregation, reduce blood pressure, increase coronary blood flow and potentiate the action of compounds which increase cGMP levels.

USE - (I) are used as medicaments, specifically for treating cardiovascular diseases, hypertension, thromboembolic diseases, sexual dysfunction, inflammation or central nervous system disorders (all claimed). Specific disorders to be treated include cardiac insufficiency, stable or unstable angina pectoris, arrhythmia, myocardial infarction, cerebral stroke, transitory ischemic attacks, peripheral blood flow disorders, restenosis, arteriosclerosis, asthma, prostate hypertrophy, erectile dysfunction, female sexual dysfunction, osteoporosis, gastroparesis, incontinence, cognitive disorders, age-associated learning and memory disorders, vascular dementia, cranial-cerebral trauma, Alzheimer's disease, Parkinson's disease, progressive nuclear palsy, amyotrophic lateral sclerosis, Huntington's disease, multiple sclerosis, thalamic degeneration, Creutzfeld-Jacob dementia, HIV dementia, schizophrenia, Korsakoff psychosis, anxiety, stress, depression, sleep disorders, eating disorders, migraine and pain.